

WHAT IS CLAIMED IS:

1. A data communication method in which a plurality of electronic apparatuses provided with a communication interface based on the IEEE 1394 standard are connected by at least one type of cable among optical-fiber cables, unshielded-twisted pair (UTP) cables or shielded-twisted pair (STP) cables, and communication is performed among said electronic apparatuses.

2. A data communication method according to Claim 1, wherein bits being not used at a low data rate to transfer data in a data packet to be transmitted are arranged on a data stream so as to be adapted for a plurality of data rates defined on the IEEE 1394 serial bus.

3. A data communication method according to Claim 1, wherein data rates are transmitted by sending one or more types of predetermined speed-control symbols by means of a data stream.

4. A data communication method according to Claim 3, wherein the types of said data rates are transmitted based on the number of times for sending said speed-control symbols into said data stream.

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5. A data communication method according to Claim 1, wherein an effect equivalent to that of a bias signal, defined in the IEEE 1394 standard, to be supplied to said cables is realized by sending predetermined control symbols.

6. A data communication method according to Claim 1, wherein control symbols with small signal change are used instead of control symbols with strong signal change in order to weaken unnecessary radiation in said UTP cable or said STP cable.

7. An electronic apparatus provided with a terminal to which a cable defined in the IEEE 1394 standard is connected, and a terminal to which at least one type of cable among an optical-fiber cable, a UTP cable and an STP cable is connected.

8. A data communication method in which, when an interface adapted for a data-communication system whose data rate is variable is used to perform data communication among a plurality of electronic apparatuses, a cable defined in said data-communication system is used,

wherein, when a communication channel for performing the data communication using a multi-purpose cable different

from said cable defined in said data-communication system is used, the data communication is performed using an arrangement of bits corresponding to the maximum data rate, and when said multi-purpose cable is used to perform the data communication at a low data rate, a bit region being not used to transfer data in a data packet to be transmitted is arranged on a data stream so as to be adapted for the plurality of data rates.

9. A data communication method according to Claim 8, wherein said interface is a communication interface based on the IEEE 1394 standard, and said multi-purpose cable is any one type of cable among an optical-fiber cable, a UTP cable and an STP cable.

10. A data communication method according to Claim 8, wherein said data rates are transmitted by sending one or more types of predetermined speed-control symbols by means of said data stream.

11. A data communication method according to Claim 8, wherein the types of said data rates are transmitted based on the number of times for sending said one or more types of speed-control symbols into said data stream.

12. A data communication method according to Claim 8, wherein an effect equivalent to a bias signal defined in said data-communication system to be supplied to said cable is realized by sending a predetermined control symbol.

13. A data communication method according to Claim 12, wherein, when said predetermined control symbol has a strong signal change, a control symbol with small signal change is used if necessary to weaken unnecessary radiation.

14. An integrated circuit formed in a physical layer based on an interface adapted for a data-communication system whose data rate is variable,

wherein said integrated circuit includes:

a terminal to which a cable defined in said data-communication system is connected; and

a terminal to which a multi-purpose cable different from said cable defined in said data-communication system is connected.

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